

Verizon New England Inc.

17. Unbundled Dark Fiber
17.1 General

17.1.1	Description
A.	Dark fiber provides a TC with a continuous fiber optic strand within an existing, in-place Telephone Company fiber optic cable sheath solely for use in the provision of telecommunications services.
1.	A strand is not considered continuous if splicing is required to provide fiber continuity between locations. If a fiber strand can be made continuous by joining fibers at existing splice points within the same sheath, the Telephone Company will perform such splicing at the TC's request on a time and materials basis.
2.	A minimum quantity of two fiber strands is required.
B.	Dark fiber is only available where in-place, spare facilities exist. The Telephone Company will not construct new or additional facilities and will not introduce additional splice points to accommodate dark fiber requests.
C.	Dark fiber is provided subject to the availability of facilities on a first-come, first-served basis. Reservations for dark fiber are not accepted.
D.	Unbundled dark fiber may be accessed at existing hard termination points (e.g., fiber distribution frames, industry standard mechanical fiber connectors), at existing splice points (per DTE Phase 4N Order) or, for collocation arrangements, at the fiber tie augment on the POT bay.
E.	Written requests for dark fiber must designate the two locations between which dark fiber is desired and the quantity of fiber pairs requested. Each request must specify two locations only. Additional locations will require additional requests.
F.	The Telephone Company's Telecom Industry Services Operations Center (TISOC) will be the single point of contact for all unbundled dark fiber requests.

17.1.2	Cable Records Review
A.	Prior to ordering dark fiber, a TC must have the Telephone Company conduct a review of its existing cable records to determine whether spare dark fiber is available.
1.	If Spare Fiber Exists —The Telephone Company will notify the TC and provide the estimated mileage and number of intermediate offices, if applicable. The Telephone Company will also provide an estimate of the applicable rates and charges when the records indicate spare dark fiber may be available. The Telephone Company makes no guarantee as to the length of time the fiber will remain spare. If such fiber does not remain spare and the Telephone Company had provided notification of its availability within the last sixty days to the TC, the Telephone Company will notify the TC that it is no longer available (per DTE Phase 4N Order).

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17. Unbundled Dark Fiber
17.1 General**17.1.2 Cable Records Review****A. (Continued)**

- 2. If no Spare Unreserved Fiber Exists**—The Telephone Company will inform the TC as soon as practical. The TC may request documentation supporting that this is the case. The Telephone Company will provide such documentation which may include, at the Telephone Company's sole option, copies of its records or information extracted from its records, omitting all proprietary or confidential information. The Telephone Company will provide such documentation within thirty business days of the TC's request for documentation, except in cases of voluminous requests or large, complex projects (per DTE MA 4N Order).

17.1.3 Fiber Layout Map

- A.** At the option of the TC, the TC may request a fiber layout map for a wire center for preliminary design purposes only. The map will show the routes within the wire center where there are existing Telephone Company fiber cable sheaths.
- 1.** Fiber layout maps are based upon the Telephone Company's existing records and are provided subject to a proprietary agreement (per DTE MA 4N Order). Said agreement shall limit disclosure to personnel of the TC that have a need for fiber layout information solely for the purpose of designing the TC network within the servicing wire center.
- 2.** A TC's written request for a fiber layout map for a wire center shall be sent to the service delivery engineer in the TISOC. The Telephone Company will charge the TC requesting the map on a time and materials basis for all work performed by the Telephone Company in connection with creating the map. Within 15 business days of receipt of the TC's written request, and before undertaking any work to create the map, the Telephone Company will provide the TC with a written estimate of the time and cost associated with creating the map. The Telephone Company will proceed with the work to create the map only upon receipt of the TC's written authorization and full payment of the estimated charges. Upon completion of the work to create a map, the Telephone Company will provide the TC with a final statement of the total costs incurred to perform the work and either issue a bill or provide a credit for the difference between the estimated and actual costs.
- 3.** If another TC submits a written request for a fiber layout map for the same wire center, the Telephone Company will provide the map to the other TC subject to the same non-disclosure agreement. The Telephone Company will charge the TC requesting the map on a time and materials basis for all work performed by the Telephone Company to reproduce and update the map. Before undertaking any work to reproduce and update the map, the Telephone Company will provide the TC with a written estimate of the time and cost associated with providing the map. The Telephone Company will proceed with the work to reproduce and update the map only upon receipt of the TC's written authorization and full payment.

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17. Unbundled Dark Fiber
17.1 General**17.1.4 Field Survey**

- A. At the option of the TC, the TC may request a field survey in order to verify the availability of dark fiber pairs and that such pairs are not defective or have not been used by Telephone Company personnel for prior emergency restoration activity. Fiber pairs will be tested by placing a light source on the individual fibers and measuring the end-to-end loss utilizing industry standard fiber optic test equipment. Results will be documented and provided to the TC.

17.1.5 Testing

- A. At the option of the TC, the TC may request testing of dark fiber in lieu of a field survey or as follow up to a field survey. If the TC subsequently determines the unbundled dark fiber provided by the Telephone Company is not suitable, the TC must submit a request to disconnect the unbundled dark fiber.

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17. Unbundled Dark Fiber

17.2 Responsibility of the Telephone Company

17.2.1	Description
A.	The Telephone Company does not guarantee or make any warranty with respect to the accuracy or completeness of its cable records.
B.	Telephone Company technicians will perform all installation and cross-connect work at the splice point, including interconnection, using current splicing methods, to a fiber optic cable provided, installed and maintained by a TC.
C.	Dark fiber, where available, conformed to those Telephone Company standard transmission characteristics in place at the time the fiber was installed. The Telephone Company will not re-terminate or re-splice fibers in order to improve transmission characteristics.
D.	The Telephone Company does not guarantee the transmission characteristics of dark fiber will remain constant over time.
E.	Where dark fiber terminates at a fiber distribution frame, the Telephone Company will place a jumper cable connecting the pair on the Telephone Company's fiber distribution frame to the TC's demarcation point.
F.	Where dark fiber terminates at a collocation arrangement, the Telephone Company will place a jumper cable connecting the pair on the Telephone Company's fiber distribution frame to the TC's fiber tie augment on the POT bay.
G.	The Telephone Company will provide intermediate cross-connections between fiber distribution frames in intermediate wire center(s).
H.	The Telephone Company reserves the right to petition for relief from its obligation to provide dark fiber if it believes that a TC request would strand an unreasonable amount of fiber capacity or would result in service disruption or degradation of service to other customers.
I.	In the event the Telephone Company must perform emergency cable restoration to its own facilities, all efforts will be made to restore the TC's leased unbundled dark fiber pairs in the same manner as other fibers in the same cable sheath using Telephone Company standard restoration procedures.

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17. Unbundled Dark Fiber
17.3 Responsibility of the TC

17.3.1	Description
A.	The TC assumes all risks of ordering dark fiber based solely on the Telephone Company's cable records review including, but not limited to, service order charges and/or cancellation charges if it is subsequently determined that dark fiber is not available.
B.	The TC is responsible for determining whether the transmission characteristics of the dark fiber provided by the Telephone Company will accommodate its requirements.
C.	The TC is responsible for obtaining all rights of way, conduit, duct and pole space required for the CLEC-provided cable.
D.	The TC is responsible for obtaining any governmental or private property permit, easement or other authorization or approval required for access to dark fiber, such as to open manhole covers.
E.	Establishment of applicable fiber optic transmission equipment or intermediate repeaters needed to power unbundled dark fiber in order to transmit information is the responsibility of the TC.
F.	The TC assumes all risks associated with the unforeseen introduction of future splices on dark fiber.
G.	The TC is responsible for establishing a fiber patch panel which will serve as the demarcation point when dark fiber terminates in a location other than a Telephone Company wire center.
H.	The TC is responsible for augmenting its collocation arrangement with the proper cross connects before it submits an order for unbundled dark fiber.
I.	The TC accepts the environmental risks inherent in outside plant construction.
J.	Upon notification by the Telephone Company, the TC must also agree to cooperate with the Telephone Company for normal cable maintenance activity (e.g., cable rearrangements, etc.

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**17. Unbundled Dark Fiber
17.4 Regulations****17.4.1 Reserving Fiber Pairs**

- A. The Telephone Company will only reserve fiber pairs for known future growth. However, where the Telephone Company has received a specific order for fiber-related service from a given customer, the fiber will be reserved for that customer.

17.4.2 Maintenance Spares

- A. In order to maintain network survivability and reliability of the Telephone Company network, the Telephone Company reserves the right to designate up to five percent of fibers in a sheath with a minimum of two fibers in cables with twelve to twenty-four fibers and no more than twelve fibers in larger fiber cables as maintenance spares. These maintenance spares are not available for dark fiber.
1. If the Telephone Company denies a request for dark fiber and has reserved fibers in excess of these amounts for its own business needs, the Telephone Company shall inform the TC of its doing so, and the reasons therefore. The dispute resolution procedures set forth in this tariff will govern any ensuing disagreement between the TC and the Telephone Company.

17.4.3 Billing of Rates and Charges

- A. The Telephone Company will commence billing applicable NRCs and monthly rates for unbundled dark fiber upon completion of the service order on the requested due date.

17.4.4 Request for Service Date Changes

- A. The TC may submit to the TISOC a written supplement to the original ASR requesting a change of service date for the unbundled dark fiber request, but the new service date may not exceed the original service date by more than thirty calendar days. The TC will be billed a service date change charge (NRC) to delay the start of service.
1. If the TC's requested service date is more than thirty calendar days after the original service date, or if the TC is unable to accept the unbundled dark fiber within thirty calendar days of the original service date, the TC's order for unbundled dark fiber will be cancelled by the TISOC representative on the thirty-first day and cancellation charges will apply. In addition, the pairs requested on the cancelled order(s) will not be reserved for the TC and will be returned to available inventory.

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17. Unbundled Dark Fiber

17.5 Application of Rates and Charges

17.5.1 NRCs

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| A. | Cable Records Review —The TC will be billed an NRC for cable documentation per request, to reimburse the Telephone Company for the costs incurred in providing the TC with the documentation described in Section 17.1.2. |
| B. | The Service Order Charge NRC applies (refer to Part A, Section 3.3). |
| C. | The following NRCs apply as appropriate (refer to Part A, Section 3.3). |
| 1. | Dispatch-Out of Hours |
| 2. | Customer Not Ready-In |
| 3. | Customer Not Ready-Out |
| 4. | Customer Misdirect-In |
| 5. | Customer Misdirect-Out |
| 6. | Modification charges |
| 7. | Cable Documentation —Applies per request. |
| 8. | Cancellation Charge |

17.5.2 Monthly Rates

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| A. | Monthly rates associated with fiber pairs apply on a fixed and per tenth mile basis (per DTE Phase 4N Order). The fixed rate applies per fiber pair, per wire center. The per one-tenth mile rate applies per fiber pair with mileage calculated utilizing the V&H coordinates method between the two locations. |
| 1. | Mileage will be measured in units of one-tenth of a mile. Any fractional unit will be rounded up to the next higher unit before applying rates. |
| B. | When applicable, an intermediate cross-connection rate applies on a monthly basis. |

17.5.3 Time and Materials

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| A. | Time and Materials rates and charges apply as follows. |
| 1. | When a TC requests a new fiber layout map or an update to or copy of an existing fiber layout map (per DTE Phase 4N Order). |
| 2. | When a TC requests a cable records review. |
| 3. | When a TC requests a field survey. |
| 4. | When a TC requests testing. |
| 5. | When a TC requests cable documentation supporting the Telephone Company's determination that no dark fiber is available (per DTE Phase 4N Order). |
| 6. | When the Telephone Company performs a splice or related work. |

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17. Unbundled Dark Fiber
17.5 Application of Rates and Charges

17.5.3 Time and Materials

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| B. | Testing —Time and materials charges will apply if the TC requests the Telephone Company to retest the fibers subsequent to the field survey. In cases where a field survey is declined by the TC, initial or subsequent testing of the fiber to determine actual transmission requirements will be performed at the TC's request on a time and materials basis. |
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17.5.4 Collocation Charges

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| A. | Collocation SAC or IAC charges, as appropriate, will also apply (refer to Part E). |
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ATTACHMENT

CTC-04

UNBUNDLED DARK FIBER SERVICE DESCRIPTION

1.0 As a result of the Massachusetts Department of Telecommunications and Energy's Phase 3 and Phase 4-N Orders in the Consolidated Arbitrations (D.P.U. 96-73/74, 96-75, 96-80/81, 96-83 and 96-94), Verizon-Massachusetts ("Verizon-MA") is required to offer dark fiber as an unbundled network element (UNE) to Competitive Local Exchange Carriers (CLECs) in Massachusetts. Unbundled Dark Fiber will be offered in Massachusetts to CLECs in the manner described herein in order to comply with the Department's Orders.

1.1 Unbundled Dark Fiber is defined as a continuous fiber optic strand within an existing, in-place fiber optic cable sheath owned by Verizon-MA that a CLEC may access at existing splice points and hard termination points. Establishment of applicable fiber optic transmission equipment or intermediate repeaters needed to power the Unbundled Dark Fiber in order to transmit information is the responsibility of the CLEC. A strand is not considered continuous if splicing is required to provide fiber continuity between locations. If a fiber strand can be made continuous by joining fibers at existing splice points within the same sheath, Verizon-MA will perform such splicing at the CLEC's request on a time-and-materials basis.

1.2 Unbundled Dark Fiber will be offered in Massachusetts to CLECs, subject to availability, solely for the purpose of their using the fiber as a transmission medium in the provision of telecommunications services. Unbundled Dark Fiber, where available, may be accessed from the CLEC's collocation arrangement at existing Verizon-MA hard termination points (e.g. fiber distribution frames, industry standard mechanical fiber connectors) or, as directed by the Department's Orders, at existing splice points and hard termination points. Unbundled Dark Fiber will be offered in a minimum quantity of two (2) fibers.

1.3 Verizon-MA will make available for lease existing, in-place, spare dark fiber as Unbundled Dark Fiber to CLECs under contractual agreements and on a "first come, first served" basis. Reservations are not accepted for Unbundled Dark Fiber. Verizon-MA will not construct new or additional facilities to satisfy a CLEC's request for Unbundled Dark Fiber.

1.4 The Bell Atlantic Telecom Industry Services Operations Center (TISOC) will be the single point of contact for all Unbundled Dark Fiber requests. The CLEC must submit a written request designating the two locations between which Unbundled Dark Fiber is desired and the quantity of Unbundled Dark Fiber pairs requested. Each request must specify two (2) locations only; additional locations will require additional requests.

Upon receipt of the CLEC's written request, Verizon-MA will initiate a review of its cable records to determine whether spare dark fiber may be available for lease as Unbundled Dark Fiber between the locations and in the quantities specified in the CLEC's request, subject to field verification as outlined in 1.9 below. Verizon-MA will respond within fifteen (15) business days from receipt of the CLEC's request, indicating whether Unbundled Dark Fiber may be available

based on the records search except that for voluminous requests or large, complex projects, Verizon-MA reserves the right to negotiate a different interval. Verizon-MA will also provide an estimate of the applicable rates and charges for Unbundled Dark Fiber when the records indicate spare dark fiber may be available.

1.5 Upon written request of a CLEC, Verizon-MA will create a fiber layout map for a Verizon-MA wire center based on its existing records. The map will show the routes within the wire center where there are existing Verizon-MA fiber cable sheaths. The maps are available to a CLEC for preliminary design purposes only. The CLEC must submit a request to the TISOC as set forth in section 1.4 above for the purpose of Verizon-MA undertaking a review of its cable records to determine whether spare dark fiber may be available for lease as Unbundled Dark Fiber between locations and in the quantities specified by the CLEC.

A CLEC's written request for a fiber layout map for a wire center shall be sent to the Service Delivery Engineer (SDE) in the TISOC. Verizon-MA will charge the CLEC requesting the map on a time and material basis for all work performed by Verizon-MA in connection with creating the map. Where such work reflects incremental changes to previously created maps, Verizon-MA's charges shall reflect only the incremental work required. Within 15 business days of receipt of the CLEC's request, and before undertaking any work to create the map, Verizon-MA will provide the CLEC with a written estimate of the time and cost associated with creating the map. Verizon-MA will proceed with the work to create the map only upon receipt of the CLEC's written authorization and full payment of the estimated charges. Upon completion of the work to create the map, Verizon-MA will provide the CLEC with a final statement of the total costs incurred to perform the work and either issue a bill or provide a credit for the difference between the estimated and actual costs.

Verizon-MA will provide the fiber layout map to the CLEC subject to a non-disclosure agreement. Said agreement shall limit disclosure to personnel of the CLEC that have a need for fiber layout information solely for the purpose of designing the CLEC network

If another CLEC submits a written request for a fiber layout map for the same wire center, Verizon-MA will provide the map to other CLEC subject to the same non-disclosure agreement. Before undertaking any work to reproduce and update the map, Verizon-MA will provide the CLEC with a written estimate of the time and cost associated with providing the map. Verizon-MA will proceed with the work to reproduce and update the map only upon receipt of the CLEC's written authorization and full payment.

1.6 In order to maintain network survivability and reliability of the Verizon-MA network, Verizon-MA will reserve a reasonable quantity of fibers in a cable, based on the Department's Orders, to be designated as maintenance spares. These spares will not be available for lease as Unbundled Dark Fiber. Verizon-MA will reserve up to five percent of fibers in a sheath with a minimum of two fibers reserved in cables with 12 to 24 fibers and no more than 12 reserve fibers in larger fiber cables. If Verizon-MA denies a request for dark fiber and has reserved fibers in excess of these amounts for maintenance spares, Verizon-MA shall inform the CLEC in writing

that it is doing so and the reasons therefore. The dispute resolution procedures set forth in the interconnection agreement will then govern any ensuing disagreement between the CLEC and Verizon-MA. If experience with this approach proves unsatisfactory over the next two or three years, Verizon-MA will suggest revisions.

1.7 Verizon-MA will not reserve fiber pairs for unknown and unspecified future growth. As directed by the Department's Phase 3 Order, Verizon-MA will not reserve fiber pairs unless such fibers have been "installed or allocated to serve a particular customer in the near future" unless

1.8 In the event no spare fiber exists, other than fiber that has been reserved by Verizon-MA in accordance with Sections 1.6 and 1.7, Verizon-MA will so notify the requesting CLEC as soon as practical. The CLEC may request documentation supporting Verizon-MA's determination that existing, spare fiber is not available for lease as Unbundled Dark Fiber. Verizon-MA will provide such documentation which may include, at Verizon-MA's sole option, copies of its records or information extracted from its records, omitting all proprietary or confidential information. Such documentation will be provided within thirty (30) business days of the CLEC's request for the documentation, except that for voluminous requests or large, complex projects, Verizon-MA reserves the right to negotiate a different interval. The CLEC will be billed a non-recurring charge for cable documentation per request to reimburse Verizon-MA for the costs incurred in providing the CLEC with the documentation described in this provision.

1.9 Verizon-MA makes no representation or warranty regarding the accuracy or completeness of its cable records. At the CLEC's option, per the terms of individually negotiated contracts, Verizon-MA will initiate a field survey to verify the availability of dark fiber pairs for lease as Unbundled Dark Fiber, and that such fiber pairs are not defective or have not been used by field personnel for prior emergency restoration activity. In addition, as part of the field survey, the fiber pairs requested by the CLEC will be tested by placing a light source on the individual fibers and measuring the end-to-end loss utilizing industry standard fiber optic test equipment. The test results will be documented and provided to the CLEC. The applicable rates and charges estimated in 1.4 will also be confirmed at the conclusion of the field survey, and the CLEC will be informed of any modifications to the preliminary rate quote. When a field survey is performed, the CLEC will be billed a non-recurring charge on a time-and-materials basis, regardless of the outcome of the survey. The interval for the field survey will be negotiated based upon the number of locations and quantity of fiber pairs requested.

1.10 The CLEC may proceed to order Unbundled Dark Fiber any time following completion of the request and/or field survey. However, since spare fiber is available to satisfy other requests on a first-come, first-served basis, Verizon-MA is not responsible if the fiber is utilized before the CLEC places its order. Verizon-MA will notify the CLEC if the spare fiber is utilized within 60 days of being notified of spare fiber availability.

1.11 Should the CLEC decline the field survey described in 1.9 above and place an order for Unbundled Dark Fiber based solely on the information contained in Verizon-MA's cable records, the CLEC assumes all risks of relying on such records including, but not limited to, service order

charges and/or order cancellation charges if it is subsequently determined during the implementation process that Unbundled Dark Fiber is not available.

1.12 Verizon-MA's sole obligation is to provide Unbundled Dark Fiber, where available, that conformed to Verizon-MA standard transmission characteristics at the time the fiber was installed. It is the CLEC's responsibility to determine that the transmission characteristics of the Unbundled Dark Fiber provided by Verizon-MA will accommodate the CLEC's transmission requirements and loss budget. Verizon-MA will not re-terminate or re-splice fibers in order to improve the transmission characteristics of Unbundled Dark Fiber. Time-and-materials charges will apply if the CLEC requests Verizon-MA to re-test the fibers subsequent to the field survey described in 1.9 above. In cases where a field survey is declined by the CLEC, as described in 1.9 above, initial or subsequent testing of the fiber to determine actual transmission requirements will be performed at the CLEC's request on a time-and-materials basis. If the CLEC subsequently determines the Unbundled Dark Fiber provided by Verizon-MA is not suitable, the CLEC must submit a request to disconnect the Unbundled Dark Fiber.

1.13 The transmission characteristics of the Unbundled Dark Fiber cannot be guaranteed to remain constant over time. Cable restoration or network rearrangements that require additional field splices may result in additional loss being introduced. The CLEC assumes all risks associated with the unforeseen introduction of future splices.

1.14 When the CLEC places an order for Unbundled Dark Fiber, the CLEC will be billed a non-recurring service order charge for the initial pair of fibers between the two (2) locations specified in the CLEC's request. In addition to the service order charge, appropriate time-and-materials charges will be billed to the CLEC to recover the work efforts involved with the initial review of Verizon-MA's records.

The CLEC will also be billed a monthly rate that consists of a fixed monthly charge per fiber pair, per serving wire center, and a monthly rate per fiber pair, per tenth of a mile. The mileage used to determine the monthly rate for Unbundled Dark Fiber is based on airline mileage utilizing the Vertical and Horizontal (V&H) coordinate method between the locations to which the facility is provisioned. When the calculation results in a fraction smaller than one tenth of a mile, the mileage will be rounded up to the next tenth of a mile before applying the rates.

1.15 In a Verizon-MA central office, Verizon-MA will provide Unbundled Dark Fiber hard termination at a fiber distribution frame (FDF). Verizon-MA will provide appropriate cross-connections at such FDFs to the completed collocation node augmented with fiber terminations at their POT bays. (Appropriate recurring monthly charges will apply: Service Access Charge (SAC) with physical collocation and Interconnection Access Charge (IAC) with virtual collocation.) In addition, when Verizon-MA provides intermediate cross-connection(s) at a FDF in intermediate Verizon-MA central office(s) to accommodate a CLEC's request, an Unbundled Dark Fiber Intermediate Cross-Connection recurring charge will apply.

1.16 Verizon-MA will not introduce additional splice points to accommodate a CLEC's request. All work required to be performed at an existing splice location will be performed by Verizon-MA personnel. In the case of interconnection at an existing splice point, Verizon-MA, using current Verizon-MA approved splicing methods, will connect to a fiber optic cable provided, installed and maintained by the CLEC. All rights-of-ways, conduit, duct, and pole space for the CLEC-provided cable are to be secured by the CLEC at the CLEC's expense. Any additional Verizon-MA costs incurred to gain access to an existing splice point and to perform a splice or related work will be billed to the CLEC on a time-and-materials basis. To the extent any governmental or private property permit, easement, or other authorization or approval is required for access to Unbundled Dark Fiber, such as to open manhole covers, the CLEC is responsible for obtaining such permit, easement, or authorization. In the case where the fiber terminates at an FDF in a building telco room, the CLEC will be responsible for installing a demarcation point, such as a fiber patch panel, for Verizon-MA to terminate the fiber. Verizon-MA will install a jumper from its FDF to the fiber patch panel installed by the CLEC.

1.17 If Verizon-MA believes that a request by a CLEC for lease of Unbundled Dark Fiber would strand an unreasonable amount of fiber capacity, Verizon-MA reserves the right to petition the Department for relief from its obligation to provide Unbundled Dark Fiber. Verizon-MA also reserves the right to seek relief from its obligation if a request for Unbundled Dark Fiber would result in service disruption or degradation of service provided to other customers or carriers.

1.18 In leasing Unbundled Dark Fiber, the CLEC accepts the environmental risks inherent in outside plant construction. In the event Verizon-MA must perform emergency cable restoration to its own facilities, all efforts will be made to restore the CLEC's leased Unbundled Dark Fiber pairs in the same manner as other fibers in the same cable sheath using Verizon-MA standard restoration procedures. Upon notification by Verizon-MA, the CLEC must also agree to cooperate with Verizon-MA for normal cable maintenance activity (e.g., cable rearrangements, etc.).

1.19 Verizon-MA will commence billing the applicable non-recurring and recurring rates for Unbundled Dark Fiber upon completion of the service order on the requested due date. The CLEC may submit to the TISOC a written supplement to the original ASR requesting a change of service date for the Unbundled Dark Fiber request, but the new service date may not exceed the original service date by more than 30 calendar days. The CLEC will be billed a non-recurring Service Date Change Charge to delay the start of the service.

If the CLEC's requested service date is more than 30 calendar days after the original service date, or if the CLEC is unable to accept the Unbundled Dark Fiber within 30 calendar days of the original service date, the CLEC's order for the Unbundled Dark Fiber will be canceled by the TISOC representative on the 31st day with the appropriate Cancellation Charges as defined in Section 1.20. In addition, the pairs requested on the canceled order(s) will not be reserved for the CLEC and will be returned to available inventory.

REVISED
August 31, 2000

1.20 Cancellation charges billed to the CLEC include appropriate service order charges in addition to any time-and-materials charges for installation work performed and other expenses incurred on behalf of the CLEC's request(s) up to and including the day the cancellation is received or the order is canceled by Verizon-MA per the terms of Section 1.19.

REVISED
August 31, 2000

TIME & MATERIALS BILLING
(When Applicable)

WORK GROUP	USOC	WORK FUNCTION				
		Field Survey (Section 1.9)	Testing (Section 1.12)	Splice (Section 1.16)	Records Review (Section 1.9)	Fiber Layout Map (Section 1.5)
NTE ¹ Planning	TM1DA	X	X	X	X	X
NTE ¹ Design	TM1DB	X	X	X	X	X
NTE ¹ Technician	TM1DC	X	X	X	X	X
C.O. Frame Technician	TM1DD	X	X			X

¹ NTE - Network Transport Engineering (Used generically to represent all outside plant work groups involved in the planning, design, and implementation of fiber optic cable.)

ATTACHMENT

CTC-05

ATTACHMENT CTC-05

[Verizon's Proposed Interconnection Agreement, UNE Attachment]

8. Dark Fiber

[FOR NY, MA & CT ONLY – delete the remaining subsections of Section 8 below if for NY, MA, OR CT]:

- 8.1 Subject to the conditions set forth in Section 1 of this Attachment, Verizon shall provide **CLEC with access to Dark Fiber (as such term is hereinafter defined) in accordance with, and subject to, the rates, terms and conditions set forth in Verizon's [NYPSC No. 916 Tariff] [DTE No. 17 Tariff] [[CT Tariff No. 12], as amended from time to time, that relate to or concern Dark Fiber, and Verizon shall do so regardless of whether or not such rates, terms and conditions are effective. Verizon will provide **CLEC access to Dark Fiber, including Dark Fiber Loops, Dark Fiber Subloops and Dark Fiber IOF, in accordance with, but only to the extent required by, Applicable Law.

[8.1 FOR ALL OTHER STATES]:

Access to unbundled Dark Fiber Loops, Dark Fiber Subloops and Dark Fiber IOF (collectively, "Dark Fiber") will be provided by Verizon, where existing facilities are available at the requested availability date, in the loop, subloop and interoffice facilities (IOF) portions of the Company's network. Access to Dark Fiber will be provided in accordance with, but only to the extent required by, Applicable Law.

- 8.2 A "Dark Fiber Loop" consists of continuous fiber optic strand(s) in a Verizon fiber optic cable between Verizon's Accessible Terminal, such as the fiber distribution frame, or its functional equivalent, located within a Verizon Wire Center, and Verizon's main termination point, such as the fiber patch panel, located within a Customer premise, and that has not been activated through connection to the electronics that "light" it, and thereby render it capable of carrying Telecommunications Services.
- 8.3 A "Dark Fiber Subloop" consists of continuous fiber optic strand(s) in a Verizon fiber optic cable (a) between Verizon's Accessible Terminal located within a Verizon Wire Center, and Verizon's Accessible Terminal at a Verizon remote terminal equipment enclosure, (b) between Verizon's Accessible Terminal at a Verizon remote terminal equipment enclosure and Verizon's main termination point located within a Customer premise, or (c) between Verizon's Accessible Terminals at Verizon remote terminal equipment enclosures, and that in all cases has not been activated through connection to the electronics that "light" it, and thereby render it capable of carrying Telecommunications Services.
- 8.4 "Dark Fiber Interoffice Facilities (IOF)" consist of continuous fiber strand(s) that are located within a fiber optic cable sheath between either (a) Verizon's Accessible Terminals at two Verizon Central Offices or (b) a Verizon Accessible Terminal at a Verizon Central Office and a **CLEC Central Office, but in either case, that have not been activated through connection to multiplexing, aggregation or other electronics that "light" it and thereby render it capable of carrying Telecommunications Services.

8.5 In addition to the other terms and conditions of this Agreement, the following terms and conditions also shall apply to Dark Fiber generally, including Dark Fiber Loops, Dark Fiber Subloops and Dark Fiber IOF as appropriate:

8.5.1 Verizon shall be required to provide a Dark Fiber Loop only where one end of the Dark Fiber Loop terminates at Verizon's Accessible Terminal in Verizon's Central Office that can be cross-connected to **CLEC's collocation arrangement located in that same Verizon Central Office, and the other end terminates at the Customer premise.

Verizon shall be required to provide a Dark Fiber Subloop only where (1) one end of the Dark Fiber Subloop terminates at Verizon's Accessible Terminal in Verizon's Central Office that can be cross-connected to **CLEC's collocation arrangement located in that same Verizon Central Office and the other end terminates at Verizon's Accessible Terminal at a Verizon remote terminal equipment enclosure that can be cross-connected to **CLEC's collocation arrangement or adjacent structure, or (2) one end of the Dark Fiber Subloop terminates at Verizon's main termination point located within the Customer premise and the other end terminates at Verizon's Accessible Terminal at a Verizon remote terminal equipment enclosure that can be cross-connected to **CLEC's collocation arrangement or adjacent structure, or (3) one end of the Dark Fiber Subloop terminates at Verizon's Accessible Terminal at a Verizon remote terminal equipment enclosure that can be cross-connected to **CLEC's collocation arrangement or adjacent structure and the other end terminates at Verizon's Accessible Terminal at another Verizon remote terminal equipment enclosure that can be cross-connected to **CLEC's collocation arrangement or adjacent structure.

With respect to Dark Fiber Loops and Dark Fiber Subloops, a **CLEC demarcation point at a Customer premise shall be established in the main telco room of the Customer premise if Verizon is located in that room or, if the building does not have a main telco room or if Verizon is not located in that room, then at a location to be determined by Verizon. A **CLEC demarcation point at a Customer premise shall be established at a location that is no more than thirty (30) feet from Verizon's Accessible Terminal on which the Dark Fiber Loop or Dark Fiber Subloop terminates. Verizon shall connect a Dark Fiber Loop or Dark Fiber Subloop to the Sprint demarcation point by installing a fiber jumper no greater than thirty (30) feet in length.

Verizon shall be required to provide Dark Fiber IOF only where (1) one end of the Dark Fiber IOF terminates at a Verizon Accessible Terminal in a Verizon Central Office that can be cross-connected to **CLEC's collocation arrangement located in that same Verizon Central Office and the other end terminates at a Verizon Accessible Terminal in another Verizon Central Office that can be cross-connected to **CLEC's collocation arrangement located in that same Verizon Central Office, or (2) one end of the Dark Fiber IOF terminates at a Verizon Accessible Terminal in a Verizon Central Office that can be cross-connected to **CLEC's collocation arrangement located in that same Verizon Central Office and the other end terminates in a **CLEC Central Office.

With respect to Dark Fiber IOF, a **CLEC demarcation point at a **CLEC Central Office shall be established at a location that is no more than thirty (30) feet from Verizon's Accessible Terminal on which the Dark

Fiber IOF terminates.

- 8.5.2 ****CLEC may access a Dark Fiber Loop, Dark Fiber Subloop or Dark Fiber IOF only at a pre-existing Verizon Accessible Terminal of such Dark Fiber Loop, Dark Fiber Subloop or Dark Fiber IOF, and **CLEC may not access a Dark Fiber Loop, Dark Fiber Subloop or Dark Fiber IOF at any other point, including, but not limited to, a splice point or splice case. Verizon will not introduce additional splice points or open existing splice points to accommodate a CLEC's request. Unused fibers located in a cable vault or a controlled environment vault, manhole or other location outside the Verizon Wire Center, and not terminated to a fiber patch, are not available to **CLEC.**
- 8.5.3 **A strand shall not be deemed to be continuous if splicing is required to provide fiber continuity between two locations. Dark Fiber Loops, Dark Fiber Subloops and Dark Fiber IOF will only be offered on a route-direct basis where facilities exist (i.e., no intermediate offices).**
- 8.5.4 **Verizon shall perform all work necessary to install: (1) a cross connection or a fiber jumper from Verizon's Accessible Terminal to a **CLEC collocation arrangement or (2) from a Verizon Accessible Terminal to **CLEC's demarcation point at a Customer premise.**
- 8.5.5 **At the Customer premise, unused fibers are not available to **CLEC pursuant to this Attachment unless such fibers terminate on a Verizon Accessible Terminal, such as a fiber patch panel. Unused fibers in a fiber splice point located outside the Customer premise are not available to **CLEC.**
- 8.5.6 **A Dark Fiber Inquiry must be submitted prior to submitting an ASR. Upon receipt of **CLEC's completed Dark Fiber Inquiry, Verizon will initiate a review of its cable records to determine whether the Dark Fiber Loop, Dark Fiber Subloop or Dark Fiber IOF requested by **CLEC may be available between the locations and in the quantities specified. Verizon will respond within fifteen (15) Business Days from receipt of **CLEC's request, indicating whether the requested Dark Fiber Loop, Dark Fiber Subloop or Dark Fiber IOF may be available based on the records search, except that for voluminous requests or large, complex projects, Verizon reserves the right to negotiate a different response interval.**
- 8.5.7 ****CLEC shall order Dark Fiber Loops, Dark Fiber Subloops and Dark Fiber IOF by sending to Verizon a separate ASR for each A to Z route.**
- 8.5.8 **Access to Dark Fiber Loops, Dark Fiber Subloops and Dark Fiber IOF that terminate in a Verizon premise must be accomplished via a collocation arrangement in that premise. In circumstances where collocation cannot be accomplished in the premises, the Parties agree to negotiate for possible alternative arrangements.**
- 8.5.9 **Dark Fiber Loops, Dark Fiber Subloops and Dark Fiber IOF will be offered to **CLEC in the condition that they are available in Verizon's network at the time that **CLEC submits its request (i.e., "as is"). In addition, Verizon shall not be required to convert lit fiber to Dark Fiber for **CLEC's use.**

- 8.5.10 Spare wavelengths on fiber strands, where Wave Division Multiplexing (WDM) or Dense Wave Division Multiplexing (DWDM) equipment is deployed, are not considered to be spare Dark Fiber Loops, Dark Fiber Subloops or Dark Fiber IOF and, therefore, will not be offered to **CLEC as Dark Fiber.
- 8.5.11 Dark Fiber that has been assigned to fulfill a Customer order, or for maintenance purposes, or allocated for near term Customer growth is not spare Dark Fiber and will not be offered to **CLEC as Dark Fiber Loops, Dark Fiber Subloops or Dark Fiber IOF.
- 8.5.12 **CLEC shall be responsible for providing all transmission, terminating and regeneration equipment necessary to light and use Dark Fiber Loops, Dark Fiber Subloops and Dark Fiber IOF.
- 8.5.13 **CLEC may not resell Dark Fiber Loops, Dark Fiber Subloops or Dark Fiber IOF purchased pursuant to this Attachment to third parties.
- 8.5.14 Except to the extent permitted by Applicable Law, **CLEC shall not use Dark Fiber Loops, Dark Fiber Subloops or Dark Fiber IOF as a substitute for special or switched access services.
- 8.5.15 In order for Verizon to preserve the efficiency of its network, Verizon will limit **CLEC to leasing up to a maximum of twenty-five percent (25%) of the Dark Fiber in any given segment of Verizon's network during any two-year period. In addition, except as otherwise required by Applicable Law, Verizon may take any of the following actions, notwithstanding anything to the contrary in this Agreement:
- 8.5.15.1 Revoke Dark Fiber leased to **CLEC upon a showing of need to the Commission and twelve (12) months' advance written notice to **CLEC; and
- 8.5.15.2 Revoke Dark Fiber leased to **CLEC upon a showing to the Commission that **CLEC underutilized fiber (less than OC-12) within any twelve (12) month period.
- 8.5.15.3 Verizon reserves and shall not waive, Verizon's right to claim before the Commission that Verizon should not have to fulfill a **CLEC order for Dark Fiber because that request would strand an unreasonable amount of fiber capacity, disrupt or degrade service to Customers or carriers other than **CLEC, or impair Verizon's ability to meet a legal obligation.
- 8.5.16 **CLEC may not reserve Dark Fiber Loops, Dark Fiber Subloops or Dark Fiber IOF.
- 8.5.17 **CLEC shall be solely responsible for: (a) determining whether or not the transmission characteristics of the Dark Fiber Loops, Dark Fiber Subloops or Dark Fiber IOF accommodate the requirements of **CLEC; (b) obtaining any Rights of Way, governmental or private property permit, easement or other authorization or approval required for access to the Dark Fiber Loops, Dark Fiber Subloops or Dark Fiber IOF; (c) installation of fiber optic transmission equipment needed to power the Dark Fiber Loops, Dark Fiber Subloops or Dark Fiber IOF to transmit

Telecommunications Services traffic; (d) installation of a demarcation point in a building where a Customer is located; and (e) augmenting **CLEC's collocation arrangements with any proper optical cross connects or other equipment that **CLEC needs to access Dark Fiber Loops, Dark Fiber Subloops or Dark Fiber IOF before it submits an order for such access.

- 8.5.18 **CLEC is responsible for trouble isolation before reporting trouble to Verizon. Verizon will restore continuity to fiber that has been broken. Verizon will not repair Dark Fiber Loops, Dark Fiber Subloops or Dark Fiber IOF that are/is capable of transmitting light, even if the transmission characteristics of the Dark Fiber Loops, Dark Fiber Subloops or Dark Fiber IOF have changed.
- 8.5.19 **CLEC is responsible for all work activities at the Customer premises. Except as otherwise required by Applicable Law, all negotiations with the premises owner are solely the responsibility of **CLEC.

ATTACHMENT

CTC-06

Year/Mo	State	Total	Back	% of
200101	RI	3,823.04	358.84	9%
200101	NH	14,887.53	4,621.92	31%
200101	VT	5,194.01	2,294.69	44%
200101 Total		\$ 23,904.58	\$ 7,275.45	30%
200102	RI	\$ 6,067.21	\$ 515.20	8%
200102	NH	\$ 11,874.54	\$ 2,471.11	21%
200102	VT	\$ 14,245.91	\$ 2,081.41	15%
200102 Total		\$ 32,187.66	\$ 5,067.72	16%
200103	RI	\$ 14,510.53	\$ 12,757.56	88%
200103	NH	\$ 22,950.05	\$ 12,212.73	53%
200103	VT	\$ 15,628.43	\$ 12,526.17	80%
200103 Total		\$ 53,089.01	\$ 37,496.46	71%
200104	RI	\$ 3,798.92	\$ 41.98	1%
200104	NH	\$ 8,716.65	\$ 83.13	1%
200104	VT	\$ 4,410.75	\$ 989.82	22%
200104 Total		\$ 16,926.32	\$ 1,114.93	7%
200105	RI	\$ 10,771.29	\$ 6,577.87	61%
200105	NH	\$ 20,652.56	\$ 10,621.74	51%
200105	VT	\$ 10,535.55	\$ 6,104.68	58%
200105 Total		\$ 41,959.40	\$ 23,304.29	56%
200106	RI	\$ 16,711.60	\$ 12,777.77	76%
200106	NH	\$ 7,183.76	\$ 405.32	6%
200106	VT	\$ 4,540.65	\$ 1,773.49	39%
200106 Total		\$ 28,436.01	\$ 14,956.58	53%
200107	RI	\$ 9,110.65	\$ 6,701.02	74%
200107	NH	\$ 21,212.45	\$ 13,389.09	63%
200107	VT	\$ 9,576.11	\$ 7,075.59	74%
200107 Total		\$ 39,899.21	\$ 27,165.70	68%
Grand Total		\$ 236,402.19	\$ 116,381.13	49%